

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number
WO 2005/080499 A2

(51) International Patent Classification⁷: **C08L 39/00**

(74) Agent: **WINCKELS, J.H.F.**; Johan de Wittlaan 7,
NL-2517 JR Den Haag (NL).

(21) International Application Number:
PCT/NL2005/000105

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 14 February 2005 (14.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
04075544.9 19 February 2004 (19.02.2004) EP

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **NED-ERLANDSE ORGANISATIE VOOR TOEGEPAST-NATUURWETENSCHAPPELIJK ONDERZOEK TNO** [NL/NL]; Schoemakerstraat 97, NL-2628 VK Delft (NL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BOERSMA, Arjen** [NL/NL]; Mr. Van Merwicklaan 3, NL-5237 KL 's-Hertogenbosch (NL). **SLAGHEK, Theodoor, Maximiliaan** [NL/NL]; Schansweg 35, NL-3042 HT Rotterdam (NL). **DE VLIAGER, Jan, Jacobus** [NL/NL]; Sprookjesbosch 8, NL-5629 JZ Eindhoven (NL).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COMPOSITIONS COMPRISING A (POLY)AMINE AND A CARBOXYLATED CARBOHYDRATE

(57) Abstract: The invention provides a composition comprising an aqueous solution of 0.1-20 wt.% of a poly(amine) and 0.1 to 50 wt.% of a carboxylated carbohydrate having an average molecular weight of at least 100,000 D and a degree of carboxyl substitution of at least 5%, which carboxylated carbohydrate has been obtained by subjecting a corresponding original carbohydrate to an oxidation treatment whereby carboxyl and aldehyde groups are obtained by oxidation of hydroxyl groups of the original carbohydrate, after which the oxidised carbohydrate so obtained is contacted with a reducing agent whereby at least part of the aldehyde groups that were obtained in the oxidation treatment are reduced to hydroxymethyl groups, whereby the carboxylated carbohydrate comprises at least part of the reducing agent and/or its reaction product(s), and wherein the carboxylated carbohydrate forms a complex with the poly(amine).



WO 2005/080499 A2